

IN THE CLAIMS

This listing of the claim will replace all prior versions and listings of claim in the present application.

List of Claims

1. (currently amended) A job scheduling management method for managing schedules of jobs allocated to computers connected through a network, comprising the steps of:

monitoring an operating state of a computer, a performance state of a resource of a computer, included in said computers, to which said jobs have been allocated, of said computers,

wherein said performance state includes information indicating at least one of a usage rate of a Central Processing Unit (CPU) included in said computer, an amount of memory being used in said computer, an amount of empty space on a disk storage device included in said computer, an average processing time for the disk storage device, and an average query processing time for a database application being executed by said computer;

determining if said operating performance state meets a predetermined condition;

if said operating performance state meets said predetermined condition, detecting the a job, of said jobs allocated to said computer, that is uncompleted at a timing when said predetermined condition is met, of said jobs allocated to said computer;

detecting another computer that is available to execute said detected uncompleted job, of said computers, based on information concerning resources required for executing said detected uncompleted job; and

allocating said detected uncompleted job to said detected other computer.

2. (currently amended) A job scheduling management method as claimed in claim 1, wherein the determination as to if said predetermined condition is met is based on how many times a said usage rate of said CPU in the computer exceeds a predetermined usage rate.

3. (currently amended) A job scheduling management method in a management computer for allocating jobs to a plurality of computers connected through a network and managing a schedule of each of said jobs, comprising the steps of:

managing first information indicating correspondence between said-a job and said-a computer to which said job is allocated, second information indicating one or more resources required for executing said job, and third information indicating one or more resources to be used by each of said computers;

monitoring a performance state of a resource of said computer an operating state of each of said computers to which said job is allocated, wherein said performance state includes information indicating at least one of a usage rate of a Central Processing Unit (CPU) included in said computer, an amount of memory being used in said computer, an amount of empty space on a disk storage device included in said computer, an average processing time for the disk storage device, and an average query processing time for a database application being executed by said computer;

determining if said operating performance state meets a predetermined condition;

detecting an uncompleted job among said jobs allocated to said computers using said first information;

extracting one or more resources required for executing said detected uncompleted job using said second information;

extracting another computer among said plurality of computers that is available to use said extracted resources using said third information; and

allocating said detected uncompleted job to said extracted other computer.

4. (currently amended) A job scheduling management method as claimed in claim 3, wherein when allocating said detected uncompleted job to said extracted other computer, said job and ~~the other~~ jobs having been already allocated to the other computer are rescheduled.

5. (currently amended) A job scheduling management method as claimed in claim 3, further comprising the steps of:

when allocating said detected uncompleted job to said extracted other computer, detecting an uncompleted job of said jobs having been already allocated to said extracted another computer using said first information;

extracting one or more resources required for executing said detected uncompleted job of ~~said computer~~ using said second information;

extracting a further computer that is available to use said extracted resources for said another computer using said third information; and

allocating said detected uncompleted job to said extracted further computer.

6. (original) A job scheduling management method as claimed in claim 3, wherein said management computer allocates one or more jobs to itself.

7. (currently amended) A job scheduling management method as claimed in claim 3, wherein said management computer further manages information indicating correspondence between said job and a time when said job is to be finished and information indicating a time passed in executing said job,

wherein if said management computer predicts that said job is not finished in the time when said job is to be finished from the operatingperformance state of said computer that executes said job and said time required for executing said job, then determining that said predetermined condition is not met, and allocating the uncompleted job of said jobs allocated to said computer to another computer.

8. (original) A job scheduling management method as claimed in claim 3, wherein when allocating said detected uncompleted job to said extracted other computer, said detected uncompleted job is allocated to a plurality of other computers among said plurality of computers according to one or more resources required for executing said job.

9. (currently amended) A job scheduling management computer for allocating jobs to a plurality of computers connected through a network and managing schedules of said jobs, comprising:

management means for managing information indicating that a first job is allocated to a first one of said computers and a second job is allocated to a second one of said computers;

monitoring means for monitoring a performance state of a resource of said first computer~~an operating state of said first computer,~~

wherein said performance state includes information indicating at least one of a usage rate of a Central Processing Unit (CPU) included in said first computer, an amount of memory being used in said first computer, an amount of empty space on a disk storage device included in said first computer, an average processing time for the disk storage device, and an average query processing time for a database application being executed by said first computer; and

rescheduling means for re-allocating said first job allocated to said first computer into said second computer and said second job allocated to said second computer to a third computer ~~one~~ of said computers with respect to information managed by said management means in accordance with an instruction given from said monitoring means.

10. (currently amended) A computer-readable recording medium ~~storing a job scheduling management program for tangibly performing functions using a plurality of computers, including allocating jobs to said a plurality of computers which are connected to each other through a network~~

and being are used by a management computer for managing schedules of said jobs, said job scheduling management program comprising:

a function of managing information for indicating correspondence between said-a job and said-a computer to which said job is allocated, information indicating one or more resources required for executing said job, and information for indicating one or more resources to be used by each of said computers;

a function of monitoring a performance state of a resource of said computer an operating state of said computer to which said job is allocated, wherein said performance state includes information indicating at least one of a usage rate of a Central Processing Unit (CPU) included in said computer, an amount of memory being used in said computer, an amount of empty space on a disk storage device included in said computer, an average processing time for the disk storage device, and an average query processing time for a database application being executed by said computer;

a function of determining if said operating performance state meets a predetermined condition;

a function of detecting an uncompleted job of said jobs allocated to said computer-computers according to said determined result;

a function of extracting one or more resources required for executing said detected uncompleted job;

a function of extracting another computer among said plurality of computers that enables to use said extracted resources; and

a function of allocating said detected uncompleted job to said extracted other computer.